

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-19 (Canceled)

Claim 20 (Currently Amended) The antigenic conjugate of claim ~~19~~ 24, wherein the LPS is de-O-acylated.

Claim 21 (Currently Amended) The antigenic conjugate of claim ~~19~~ 24, wherein the carrier protein is selected from the group consisting of tetanus toxin or toxoid, diphtheria toxin or toxoid, mutant of diphtheria toxin CRM₁₉₇, pseudomonas exotoxin A, ~~cholera~~ cholerae toxin or toxoid, Group A streptococcal toxins, pneumolysin of *Streptococcus pneumoniae*, filamentous haemagglutinin (FHA), FHA fragments of *Bordetella pertussis*; pili or pilins of *Neisseria gonorrhoeae*, pili or pilins of *Neisseria meningitidis*; outer membrane proteins of *Neisseria meningitidis*, outer membrane proteins of *Neisseria gonorrhoeae*; C5A peptidase of *Streptococcus* and surface protein of *Moraxella catarrhalis*.

Listing of Claims (Continued)

Claim 22 (Currently Amended) The antigenic conjugate of claim 49 ~~24~~, wherein the carrier protein is linked to the conserved portion of the LPS with a compound selected from the group consisting of Sulfosuccinimidyl-6-(3-[2-pyridyldithio]propionamido)-hexanoate (Sulfo-LC-SPDP); succinimidyl-6-(3-[2-pyridyldithio]propionamido)-hexanoate (LC-SPDP); Traut's reagent (2-iminothiolane); N-succinimyl-S-acetyl thioacetate (SATA); N-Succinimidyl-3-(2-pyridyl dithio)propionate (SPDP), succinimidyl acetyl thiopropionate SATP), succinimidyl-4-(N-maleimido methyl)cyclohexane-1-carboxylate (SMCC), maleimido benzoyl-N-hydroxy succinimide ester (MBS), N-succinimidyl (4-iodoacetyl)aminobenzoate (SIAB), succinimidyl 4-(p-maleimidophenyl)butyrate (SMPB), bromoacetic acid-N-hydroxy succinimide (BANS) ester, 1-ethyl-3-(3-dimethylamino propyl) carbodiimide (EDAC), adipic acid dihydrazide (ADH), cystamine and dithiobis(succinimidyl propionate) (DTSSP).

Claim 23 (Currently Amended) An immunogenic composition comprising ~~an effective amount of~~ the antigenic composition of claim 49 ~~24~~.

Claim 24 (New) An antigenic conjugate comprising a carrier protein covalently bonded to the conserved portion of an isolated lipopolysaccharide (LPS) from *Neisseria meningitidis* or *Neisseria gonorrhoeae*, wherein the conserved portion of the LPS comprises GlcNAc-Hep2-phosphoethanolamine-KDO₂-LipidA, wherein the conjugate elicits a cross reactive immune response against heterologous strains of *Neisseria meningitidis* or *Neisseria gonorrhoeae*.

Claim 25 (New) The antigenic conjugate of claim 24, wherein the conjugate elicits a cross reactive immune response against one or more bacteria selected from the group consisting of *Haemophilus influenzae*, non-typable *Haemophilus influenzae*, *Haemophilus ducreyi*, *Helicobacter pylori*, *Salmonella typhimurium*, *Salmonella minnesota* and *Moraxella catarrhalis*.

Listing of Claims (Continued)

- Claim 26 (New) An antigenic conjugate comprising a carrier protein covalently bonded to the conserved portion of an isolated lipopolysaccharide (LPS) from *Haemophilus influenzae*, non-typable *Haemophilus influenzae* or *Haemophilus ducreyi*, wherein the conserved portion of the LPS comprises GlcNAc-Hep2-phosphoethanolamine-KDO₂-LipidA, wherein the conjugate elicits a cross reactive immune response against heterologous strains of *Haemophilus influenzae*, non-typable *Haemophilus influenzae* or *Haemophilus ducreyi*.
- Claim 27 (New) The antigenic conjugate of claim 26, wherein the conjugate elicits a cross reactive immune response against one or more bacteria selected from the group consisting of *Helicobacter pylori*, *Salmonella typhimurium*, *Salmonella minnesota*, *Moraxella catarrhalis*, *Neisseria meningitidis* and *Neisseria gonorrhoeae*.
- Claim 28 (New) The antigenic conjugate of claim 26, wherein the carrier protein is selected from the group consisting of tetanus toxin or toxoid, diphtheria toxin or toxoid, mutant of diphtheria toxin CRM₁₉₇, pseudomonas exotoxin A, *cholerae* toxin or toxoid, Group A streptococcal toxins, pneumolysin of *Streptococcus pneumoniae*, filamentous haemagglutinin (FHA), FHA of *Bordetella pertussis*; pili or pilins of *Neisseria gonorrhoeae*, pili or pilins of *Neisseria meningitidis*; outer membrane proteins of *Neisseria meningitidis*, outer membrane proteins of *Neisseria gonorrhoeae*; C5A peptidase of *Streptococcus* and surface protein of *Moraxella catarrhalis*.

Listing of Claims (Continued)

- Claim 29 (New) The antigenic conjugate of claim 26, wherein the carrier protein is linked to the conserved portion of the LPS with a compound selected from the group consisting of Sulfosuccinimidyl-6-(3-[2-pyridyldithio]propionamido)-hexanoate (Sulfo-LC-SPDP); succinimidyl-6-(3-[2-pyridyldithio]propionamido)-hexanoate (LC-SPDP); Traut's reagent (2-iminothiolane); N-succinimyl-S-acetyl thioacetate (SATA); N-Succinimidyl-3-(2-pyridyl dithio)propionate (SPDP), succinimidyl acetyl thiopropionate SATP), succinimidyl-4-(N-maleimido methyl)cyclohexane-1-carboxylate (SMCC), maleimido benzoyl-N-hydroxy succinimide ester (MBS), N-succinimidyl (4-iodoacetyl)aminobenzoate (SIAB), succinimidyl 4-(p-maleimidophenyl)butyrate (SMPB), bromoacetic acid-N-hydroxy succinimide (BANS) ester, 1-ethyl-3-(3-dimethylamino propyl) carbodiimide (EDAC), adipic acid dihydrazide (ADH), cystamine and dithiobis(succinimidyl propionate) (DTSSP).
- Claim 30 (New) An immunogenic composition comprising the antigenic composition of claim 26.
- Claim 31 (New) An antigenic conjugate comprising a carrier protein covalently bonded to the conserved portion of an isolated lipopolysaccharide (LPS) from *Salmonella*, *Salmonella typhimurium* and *Salmonella minnesota*, wherein the conserved portion of the LPS comprises GlcNAc-Hep2-phosphoethanolamine-KDO₂-LipidA, wherein the conjugate elicits a cross reactive immune response against heterologous strains of *Salmonella*, *Salmonella typhimurium* and *Salmonella minnesota*.
- Claim 32 (New) The antigenic conjugate of claim 31, wherein the conjugate elicits a cross reactive immune response against one or more bacteria selected from the group consisting of *Haemophilus influenzae*, non-typable *Haemophilus influenzae*, *Haemophilus ducreyi*, *Helicobacter pylori*, *Moraxella catarrhalis*, *Neisseria meningitidis* and *Neisseria gonorrhoeae*.
- Claim 33 (New) The antigenic conjugate of claim 31, wherein the LPS is de-O-acylated.

- Claim 34 (New) The antigenic conjugate of claim 31, wherein the carrier protein is selected from the group consisting of tetanus toxin or toxoid, diphtheria toxin or toxoid, mutant of diphtheria toxin CRM₁₉₇, pseudomonas exotoxin A, *cholerae* toxin or toxoid, Group A streptococcal toxins, pneumolysin of *Streptococcus pneumoniae*, filamentous haemagglutinin (FHA), FHA of *Bordetella pertussis*; pili or pilins of *Neisseria gonorrhoeae*, pili or pilins of *Neisseria meningitidis*; outer membrane proteins of *Neisseria meningitidis*, outer membrane proteins of *Neisseria gonorrhoeae*; C5A peptidase of *Streptococcus* and surface protein of *Moraxella catarrhalis*.
- Claim 35 (New) The antigenic conjugate of claim 31, wherein the carrier protein is linked to the conserved portion of the LPS with a compound selected from the group consisting of Sulfosuccinimidyl-6-(3-[2-pyridyldithio]propionamido)-hexanoate (Sulfo-LC-SPDP); succinimidyl-6-(3-[2-pyridyldithio]propionamido)-hexanoate (LC-SPDP); Traut's reagent (2-iminothiolane); N-succinimyl-S-acetyl thioacetate (SATA); N-Succinimidyl-3-(2-pyridyl dithio)propionate (SPDP), succinimidyl acetyl thiopropionate SATP), succinimidyl-4-(N-maleimido methyl)cyclohexane-1-carboxylate (SMCC), maleimido benzoyl-N-hydroxy succinimide ester (MBS), N-succinimidyl (4-iodoacetyl)aminobenzoate (SIAB), succinimidyl 4-(p-maleimidophenyl)butyrate (SMPB), bromoacetic acid-N-hydroxy succinimide (BANS) ester, 1-ethyl-3-(3-dimethylamino propyl) carbodiimide (EDAC), adipic acid dihydrazide (ADH), cystamine and dithiobis(succinimidyl propionate) (DTSSP).
- Claim 36 (New) An immunogenic composition comprising the antigenic composition of claim 31.